



## **DEPARTMENT OF AGRICULTURE**

### **Agricultural Marketing Service**

**[Doc. No. AMS-LPS-16-0060-0001]**

#### **United States Standards for Grades of Carcass Beef**

**AGENCY:** Agricultural Marketing Service, USDA.

**ACTION:** Notice.

**SUMMARY:** The Agricultural Marketing Service of the U.S. Department of Agriculture is revising the United States Standards for Grades of Carcass Beef (beef standards) to allow dentition and documentation of actual age as additional methods of classifying maturity of carcasses presented to USDA for official quality grading.

**DATES:** These new standards shall be implemented on December 18, 2017.

**FOR FURTHER INFORMATION CONTACT:** Bucky Gwartney, Standardization Branch, Quality Assessment Division, Livestock, Poultry, and Seed Program, AMS, USDA; 1400 Independence Avenue, SW., STOP 0258; Washington, DC 20250-0258; phone (202) 720-1424.

#### **SUPPLEMENTARY INFORMATION:**

In order to update certain elements in the United States Standards for Grades of Carcass Beef (beef standards), this document makes changes that allow dentition and documentation of actual age as additional methods of classifying maturity of carcasses presented to USDA for official quality grading.

Section 203(c) of the Agricultural Marketing Act of 1946, as amended (7 U.S.C. 1621 et seq.), directs and authorizes the Secretary of Agriculture “to develop and improve standards of quality, condition, quantity, grade, and packaging and recommend and

demonstrate such standards in order to encourage uniformity and consistency in commercial practices.” AMS is committed to carrying out this authority in a manner that facilitates the marketing of agricultural commodities and makes copies of official standards available upon request. While the beef standards do not appear in the Code of Federal regulations, the updated beef standards—along with other official standards—are maintained by USDA at: <https://www.ams.usda.gov/grades-standards>. To change the beef standards, AMS utilized the procedures it published in the August 13, 1997, Federal Register and that appear in 7 CFR part 36.

### **Comments**

A public request for comment on potential changes to the beef standards was published by AMS in a Notice in the Federal Register (81 FR 57877) on August 24, 2016. AMS received 236 total comments, of which 179 commenters favored revising the beef standards to include dentition and documented age as additional methods for maturity classification and 53 commenters did not support making the changes. Two comments were submitted in duplicate and one comment was submitted in triplicate; each of these respective submissions was counted only once. It is noteworthy that 160 of the 179 favorable comments were the same form letter and were from producers. Using this public feedback, AMS published a notice in the Federal Register on June 19, 2017 (82 FR 27782), requesting comments on a specific change to the beef standards as well as addressing some of the questions raised during the first comment period.

AMS received 21 total comments on the June 19, 2017, notice. Fourteen comments were in favor of the proposed changes as written and highlighted the positive effect this would have on beef producers and the industry. The supporting comments

represented a large packer/processor, a producer, and several state and national farm-related associations. Commenters who supported the changes cited an anticipated increase in the number of carcasses that would qualify for USDA grades of Prime, Choice, and Select without a significant reduction in palatability for those grades; the anticipated profitability producers would gain by having more carcasses receiving a higher grade; and support for the science-based Cattlemen's Beef Promotion and Research Board-funded research that commenters showed in the previous notices. Many agricultural associations that represent cattle producers provided favorable comments in support of the changes. Several organizations urged AMS to make the revisions quickly because the process has been ongoing for some time.

Seven of the comments were opposed to the changes and provided a range of reasons. One of the negative commenters identified themselves as a producer. Several commenters asserted that the research studies cited in the previous notices were not significant or large enough or representative enough to make this change. In response, AMS determined that all studies referenced in the previous notices—including those that found that carcasses exhibiting advanced skeletal maturity when determined by dentition to be under 30 months of age (MOA) produced meat that was as palatable in taste tests as meat produced from carcasses that did not exhibit signs of advanced skeletal maturity—were peer-reviewed and adequately designed to answer the study objectives and hypotheses. Statistical significance and statistical power of the test will increase with an increased sample size, in small increments, but add significant costs. Several commenters stated that the changes would produce an inferior product as related to the current grade standards and that this change would benefit only the packing industry and

not producers. In response, AMS notes that the majority of grain-finished cattle are harvested at 12 to 24 MOA and usually produce A-maturity beef. In other words, the vast majority of cattle offered for grading will not be affected by this proposed change. That said, a percentage of carcasses that currently are evaluated as B- or C-maturity but are produced from cattle under 30 MOA would be eligible for grading under the proposed system. Based on AMS's estimates outlined in "Economic Assessment of the Request to Modernize the U.S. Standards for Grades of Carcass Beef," roughly an additional 1 percent of cattle would be eligible for grading. The research outlined here does not show any trends towards an inferior product being produced if dentition is implemented.

These comments can be accessed at:

<https://www.regulations.gov/docketBrowser?rpp=50&so=DESC&sb=postedDate&po=0&dct=PS&D=AMS-LPS-16-0060>.

The amendments to the beef standards are described below:

## **UNITED STATES STANDARDS FOR GRADES OF CARCASS BEEF**

### **54.104 – Application of standards for grades of carcass beef**

1. Amend 54.104 by revising paragraph (k) to read as follows:

(k) For steer, heifer, and cow beef, quality of the lean is evaluated by considering its marbling, color, and firmness as observed in a cut surface, in relation to carcass evidences of maturity. The maturity of the carcass is determined through one of three methods:

(1) Dentition as monitored by the Food Safety and Inspection Service (FSIS). Carcasses determined to be less than 30 months of age (MOA) will be classified as A-maturity, and with the exception of dark cutting lean

characteristics, the final quality grade will be determined by the degree of marbling. Any carcasses under 30 MOA exhibiting advanced skeletal maturity traits (as described for D- and E-maturity) will not be eligible for the Prime, Choice, Select, or Standard grades and will be graded according to their skeletal, lean, and marbling traits accordingly;

(2) Documentation of age as verified through USDA-approved programs and by FSIS at the slaughter facility. Carcasses determined to be less than 30 MOA by age verification will be classified as A-maturity and, with the exception of dark cutting lean characteristics, the final quality grade will be determined by the degree of marbling. Any carcasses under 30 MOA exhibiting advanced skeletal maturity traits (as described for D- and E-maturity) will not be eligible for the Prime, Choice, Select, or Standard grades and will be graded according to their skeletal, lean, and marbling traits accordingly; or

(3) Through evaluation of the size, shape, and ossification of the bones and cartilages, especially the split chine bones, and the color and texture of the lean flesh. Carcasses determined to be greater than 30 MOA will be eligible for all quality grade classifications with the final quality grade being determined by the evaluation of the degree of marbling and any adjustment factors based on advanced skeletal maturity characteristics. In the split chine bones, ossification changes occur at an earlier stage of maturity in the posterior portion of the vertebral column (sacral vertebrae) and at progressively later stages of maturity in the lumbar and thoracic vertebrae. The ossification changes that occur in the cartilages on the ends of the split thoracic vertebrae are especially useful in

evaluating maturity and these vertebrae are referred to frequently in the standards. Unless otherwise specified in the standards, whenever reference is made to the ossification of cartilages on the thoracic vertebrae, it shall be construed to refer to the cartilages attached to the thoracic vertebrae at the posterior end of the forequarter. The size and shape of the rib bones are also important considerations in evaluating differences in maturity. In the very youngest carcasses considered as “beef,” the cartilages on the ends of the chine bones show no ossification, cartilage is evident on all of the vertebrae of the spinal column, and the sacral vertebrae show distinct separation. In addition, the split vertebrae usually are soft and porous and very red in color. In such carcasses, the rib bones have only a slight tendency toward flatness. In progressively more mature carcasses, ossification changes become evident first in the bones and cartilages of the sacral vertebrae, then in the lumbar vertebrae, and still later in the thoracic vertebrae. In beef that is very advanced in maturity, all the split vertebrae will be devoid of red color and very hard and flinty, and the cartilages on the ends of all the vertebrae will be entirely ossified. Likewise, with advancing maturity, the rib bones will become progressively wider and flatter, which is shown in very mature beef whose ribs will be very wide and flat.

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**Authority: 7 U.S.C. 1621-1627.**

Dated: December 1, 2017.

Bruce Summers,  
Acting Administrator,  
Agricultural Marketing Service.

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